

IN THE CLAIMS:

Please CANCEL claims 1-24, 49-59, and 64-75 without prejudice to or disclaimer of the recited subject matter.

Please AMEND claims 60 and 62, and ADD new claims 76-101, as follows. A marked-up copy of the amended claims, showing the changes made thereto, is attached in Appendix A. For the Examiner's convenience, all claims currently pending in this application have been reproduced below:

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25. An exposure apparatus comprising:

a chamber which incorporates an optical element and surrounds a predetermined region;

a mechanism for setting an inert gas atmosphere in said chamber; and

a closed vessel which surrounds said chamber,

wherein a purity of inert gas in said chamber is higher than a purity of inert gas in said closed vessel.

26. The apparatus according to claim 25, wherein the purity of inert gas in said closed vessel is higher than a purity of inert gas outside said closed vessel.

27. The apparatus according to claim 25, wherein said mechanism discharges gas from said chamber before setting the inert gas atmosphere in said chamber.

28. The apparatus according to claim 25, wherein said closed vessel has a transmission window for transmitting light.

29. The apparatus according to claim 28, wherein the transmission window is formed from fluoride glass.

30. The apparatus according to claim 25, wherein said closed vessel has an opening/closing door.

31. The apparatus according to claim 25, further comprising a vent hole for allowing said chamber and said closed vessel to communicate with each other.

32. The apparatus according to claim 28, wherein a vent hole is freely opened/closed.

33. The apparatus according to claim 25, wherein said chamber incorporates at least some of optical elements of an illumination optical unit.

34. The apparatus according to claim 25, wherein said chamber incorporates at least some of optical elements of a projection optical unit.

35. The apparatus according to claim 25, wherein the inert gas contains at least one of helium and nitrogen.

36. The apparatus according to claim 25, wherein said chamber surrounds at least part of an optical path of light in a vacuum ultraviolet region.

37. An exposure apparatus comprising:  
a chamber which incorporates an optical element and surrounds a predetermined region;  
a mechanism for setting an inert gas atmosphere in said chamber; and  
a closed vessel which surrounds said chamber,  
wherein an internal pressure of said chamber is higher than an internal pressure of said closed vessel.

38. The apparatus according to claim 37, wherein a pressure of inert gas in said closed vessel is higher than a pressure of inert gas outside said closed vessel.

39. The apparatus according to claim 37, wherein said mechanism discharges gas from said chamber before setting the inert gas atmosphere in said chamber.

40. The apparatus according to claim 37, wherein said closed vessel has a transmission window for transmitting light.

41. The apparatus according to claim 40, wherein the transmission window is formed from fluoride glass.

42. The apparatus according to claim 37, wherein said closed vessel has an opening/closing door.

43. The apparatus according to claim 37, further comprising a vent hole for allowing said chamber and said closed vessel to communicate with each other.

44. The apparatus according to claim 43, wherein the vent hole is freely opened/closed.

45. The apparatus according to claim 37, wherein said chamber incorporates at least some of optical elements of an illumination optical unit.

46. The apparatus according to claim 37, wherein said chamber incorporates at least some of optical elements of a projection optical unit.

47. The apparatus according to claim 37, wherein the inert gas includes at least one of helium and nitrogen.

48. The apparatus according to claim 37, wherein said chamber surrounds at least part of an optical path for light in a vacuum ultraviolet region.

60. (Amended) A gas replacement method comprising the steps of:

supplying inert gas into a chamber which incorporates an optical element;  
supplying inert gas into a closed vessel which surrounds the chamber; and  
controlling a purity of the inert gas in the chamber to be higher than a purity of the inert gas in the closed vessel.

61. The method according to claim 60, further comprising the step of controlling the purity of the inert gas in the closed vessel to be higher than a purity of inert gas outside the closed vessel.

62. (Amended) A gas replacement method comprising the steps of:

supplying inert gas into a chamber which incorporates an optical element;  
supplying inert gas into a closed vessel which surround the chamber; and  
controlling a pressure of the inert gas in the chamber to be higher than a pressure of the inert gas in the closed vessel.

63. The method according to claim 62, further comprising the step of controlling the pressure of the inert gas in the closed vessel to be higher than a pressure of inert gas outside the closed vessel.

Please ADD new claims 76-101 as follows:

-- 76. An exposure apparatus comprising:

a chamber which incorporates an optical element;

a closed vessel which surrounds said chamber; and

a pump for reducing an internal pressure of said chamber,

wherein a pressure of said closed vessel is reduced when the internal pressure of the chamber is reduced,

wherein said chamber is supported by a member which supports a lens barrel that holds the optical element, and

wherein said closed vessel is coupled to the surface plate via a movable displacement adjusting member.

77. The apparatus according to claim 76, wherein said movable displacement adjusting member includes a bellows.

78. A device manufacturing method comprising the steps of:

exposing a member to be processed by the exposure apparatus defined in claim

76; and

developing the exposed member in order to manufacture the device.

79. A gas replacement method comprising the steps of:

reducing an internal pressure of a chamber which incorporates an optical element;

reducing a pressure of a closed vessel which surrounds the chamber; and

supplying inert gas into the chamber,

wherein a displacement is generated between the chamber and the closed vessel.

80. The method according to claim 79, further comprising measuring a positional

relationship between a reference member and the chamber, and controlling a displacement

mechanism based on a measurement result.

81. A device manufacturing method comprising the steps of:

exposing a member to be processed by using an exposure apparatus and the gas

replacement method defined in claim 79; and

developing the exposed member in order to manufacture the device.

82. An exposure apparatus comprising:

a chamber which incorporates an optical element;

a closed vessel which surrounds said chamber; and

a pump for reducing an internal pressure of said chamber,

wherein said chamber is supported by a supporting member and said closed vessel

is coupled to the supporting member via a movable displacement adjusting member for absorbing a displacement,

wherein the movable displacement adjusting member includes a bellows.

83. A device manufacturing method comprising the steps of:

exposing a member to be processed by the exposure apparatus defined in claim

82; and

developing the exposed member in order to manufacture the device.

84. An exposure apparatus comprising:

a chamber which incorporates an optical element;

a closed vessel which surrounds said chamber; and

a pump for reducing an internal pressure of said chamber,

wherein said chamber is supported by a supporting member, and said closed

vessel is coupled to the supporting member via a movable displacement adjusting member for absorbing a displacement,

wherein the apparatus further comprises a second movable displacement adjusting member for adjusting deformation of said closed vessel, and

said second movable displacement adjusting member holds a transmission window, said transmission window being held at a predetermined positional relationship with respect to the optical element in the chamber.

85. The apparatus according to claim 84, wherein the movable displacement adjusting member includes a bellows.

86. The apparatus according to claim 84, wherein said second movable displacement adjusting member includes a bellows.

87. A device manufacturing method comprising the steps of:  
exposing a member to be processed by the exposure apparatus defined in claim 84; and  
developing the exposed member in order to manufacture the device.

88. An exposure apparatus comprising:  
a chamber which incorporates an optical element;  
a closed vessel which surrounds the chamber; and  
a member which supports the chamber,

wherein the member is coupled to the closed vessel via a movable displacement adjusting member, and

wherein the member has a region which passes through the closed vessel.

89. The apparatus according to claim 88, further comprising a pump for reducing an internal pressure of the closed vessel.

90. The apparatus according to claim 88, wherein the movable displacement adjusting member includes a bellows.

91. The apparatus according to claim 88, further comprising a hole for allowing the chamber and the closed vessel to communicate with each other.

92. The apparatus according to claim 91, wherein the internal pressure of the chamber and the internal pressure of the closed vessel are controlled to have substantially the same internal pressure by the communication via the hole.

93. A device manufacturing method comprising the steps of:  
exposing a member to be processed by the exposure apparatus defined in claim 88; and  
developing the exposed member in order to manufacture the device.

94. An exposure apparatus comprising:  
a chamber which incorporates an optical element;  
a closed vessel which surrounds the chamber; and  
a member which supports the chamber,  
wherein the supporting member is coupled to the closed vessel via a bellows.

95. The apparatus according to claim 94, further comprising a pump for reducing an internal pressure of the closed vessel.

96. The apparatus according to claim 94, wherein the supporting member has a region which passes through the closed vessel and supports the chamber.

97. The apparatus according to claim 94, further comprising a hole for allowing the chamber and the closed vessel to communicate with each other.

98. The apparatus according to claim 97, wherein the internal pressure of the chamber and the internal pressure of the closed vessel are controlled to have substantially the same internal pressure by the communication via the hole.

99. A device manufacturing method comprising the steps of:  
exposing a member to be processed by the exposure apparatus defined in claim  
94; and  
developing the exposed member in order to manufacture the device.
100. An exposure apparatus comprising:  
a chamber which incorporates an optical element;  
a closed vessel which surrounds the chamber; and  
a member which supports the chamber,  
wherein the supporting member is coupled to the closed vessel via a deformable  
member.
101. A device manufacturing method comprising the steps of:  
exposing a member to be processed by the exposure apparatus defined in claim  
100; and  
developing the exposed member in order to manufacture the device. --
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#### REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.